

CURRICULUM VITAE



Sachin Bharadwaj M

Mechanical Engineer

PES UNIVERSITY

DOB: 11/06/1998

📍 320, 16th A main, 33rd cross,
4th T block, Jayanagar,
Bangalore-560041

✉ sachinbharadwaj98@gmail.com

[LinkedIn Profile](#)

☎ 9482398715

Qualifications: A dynamic Mechanical Engineer from a premier institution with specialization in:

- **Electronic Packaging and manufacturing** (Micro-fabrication techniques and Thermal and Mechanical design of heat sinks) - certified as Elite+Silver grade by IIT Kharagpur
- Geometric Dimensioning and Tolerancing (GD&T)
- Automotive Electronics (Embedded systems)
- Rapid Prototyping (3D printing)
- Hydraulics & Pneumatics

Simulation/ computational tools:

- Over 3 years of experience in softwares like SolidWorks, Ansys Fluent, COMSOL Multiphysics, MATLAB, Maple, Python, MS Office.

Team building activities:

- Being elected as the Captain in School and College levels organised Cultural and Sports programmes and lead the team in the same.
- Was a part of formula student team (Haya) in Brakes and wheels sub-system.
 - Performed Gas welding.
 - Metal cutting processes (using BOSCH power tools).
 - Preparing body-works using composites.

Language studies & hobbies:

- English, Kannada, Hindi, German.
- Carnatic classical flute [given stage performances and bagged many prizes], Veda chanting, Cycling, Cooking.

Work Experience: [From August 2020 till date]

- Working as a Research Associate at Process Modelling & Research Laboratory, PES University for the project funded by leading automotive manufacturer Garrett Motion Pvt. Ltd.
- Thermal management in power electronics using microchannels and cold plates, placement optimization of components on PCB using Single Objective Genetic Algorithm (SOGA).
- Development of Artificial Neural Network based correlation for heat transfer coefficient of Supercritical Carbon Dioxide.
- Organizing the 1st Biennial International Conference on Hybrid & Electric Automotive Technologies, HEAT 2021, (Website link: heat.pes.edu)

Education:

- **97%** (State 14th rank) in SSLC from Sudarshan Vidya Mandir, Bangalore.
- **98%** (State 12th rank) in 2nd PUC from RV PU College.
- **Silver medallist, 9th rank** in B. Tech Mechanical Engg. PES University, Bangalore, with an Overall CGPA of **9.02**.
- Recipient of **Prof. CNR Rao Merit scholarship** / cash award throughout undergraduate studies for being in the top 15% of branch (& >8.5 GPA).
- GATE AIR 2803 in Engineering Sciences (XE) stream.

Projects:

- Received sponsorship from TATA technologies (PUNE) for the design and fabrication of Hybrid Stirling Engine (converts solar energy to electricity for battery charging applications).
- Research work on **Cold Plate** Heat Exchanger for Battery Thermal Management system using Finite Element Analysis (FEA) using MATLAB.

Presentations:

- Anchored/hosted the function held to inaugurate the Automotive Electronics Laboratory by ROBERT BOSCH at PES University & interacted with BOSCH Vice-President Mr. R.K. Shenoy.
- Presented the working of Hybrid Stirling Engine at Prakalpa project exhibition 2018 and won the best project award for the same.
- Presented the Hobby electronics experiments like LED displays, impact of heat sinks on performance of microprocessors.
- Gave a talk on Laser Engineered Net Shaping (LENS) 3D printing process, build style etc.

CURRICULUM VITAE

Bachelor Thesis-

“Thermal Investigations of Cold Plate Heat Exchanger for Electric Vehicle Battery Cooling application by FEA and ANN Simulations using MATLAB”

- [1] Results of the project: Temperature Distribution across the Cold Plate under Steady-State conditions, with & without the effects of Radiation and under Constant Heat Flux loading.
- [2] A general-purpose MATLAB code was developed to discretize a single-phase flow, multi-pass, Serpentine Channel Cold Plate to find the performance parameters such as Maximum Temperature, Standard Deviation in Temperature & Pressure drop.
- [3] The Effect of variations in Inlet Coolant Temperature, Input Heat Flux & Coolant Mass Flow Rates on the temperature profile of the cold plate was found.
- [4] Using the non-dimensional form of the governing equations, performed parametric studies to obtain a correlation between the temperature profile of cold plate & four non-dimensional design parameters using Artificial Neural Network (ANN).

Publication Link: [Steady-state thermal investigations on cold plate using FEM \(Elsevier\)](#)

Article Under Review: ANN based correlation for maximum non-dimensional temperature in cold plate (Manuscript no. TSEP-D-21-00273)

Certifications:

- **Mathworks:**
Introduction to Statistical Methods & Linear algebra using MATLAB.
- **Datacamp:**
Introduction to Deep Learning in Python.
- **NPTEL (IIT-KGP):**
Electronic Packaging & Manufacturing.
- **Inlingua:**
German Proficiency - A1 & A2 levels.
- **TCS iON for Engg. Graduates:**
Common Corporate Qualifier Test.
- **Pearson Versant English Test:**
Level 6 - Advanced
- **IIT Mandi - Wiley:**
Applied Artificial Intelligence & Machine Learning. (In progress)

References:

- Dr. K.S. Sridhar,
Chairperson, Dept. of Mechanical engg,
UG programme, PES University.
- Dr. K.N. Seetharamu,
Chair-Professor, Dept. of Mechanical
Engg, PES University.
- Prof. BabuRao Ponangi,
Assistant Professor, Dept. of
Mechanical Engg, PES University.
- Mr. Harish Babu,
Supplier Quality Manager, Vehicle
Dynamics BU, Continental Automotive
Systems.
- Mr. Thomas Albin,
Assistant Manager, Power train sensors
BU, Bosch Ltd.

Internships:

Summer internship at CONTINENTAL AUTOMOTIVE AG.
(Electronic city) - in the dept. of Supplier Quality Management, Vehicle Dynamics and Safety systems.

[period: June - July 2018]

- Achieved the task of calculating the production cycle time for an anti-lock brake by designing and simulating the entire automated manufacturing cycle using SolidWorks.
- Prepared the Production Part Approval Process (PPAP) documents.
- Design and fabrication of storage compartments using scrap materials from the production line.
- Inspection of Anti-lock Braking Systems according to engineering part level drawings.
- Worked on SAP to collect project related data such as lot quantity, product drawings, specifications, child part details etc.

Received appreciation from Mr. Sebastian Ananthaswamy, project head - Vehicle Dynamics and Safety systems, Continental Automotive AG.

Summer Internship at ROBERT BOSCH INDIA LTD.
(Aduodi, B'lore) - In the Engineering dept. of Powertrain sensors for Engine systems.

[Period: June - July 2019]

- Worked on the project titled “Evaluation of HEX screw material for Temperature sensor” where Design Review Based on Failure Modes (DRBFM) was done as part of a cost reduction project.
- Testing and validation of Glow plugs for diesel engine applications.
- Worked on Measuring instrument like Profile Projector.

Received appreciation from Mr. S. Prashanth, Senior Manager, Powertrain sensors, Robert Bosch India Ltd.